Analysis of college data in ISLR package:

Private Apps Accept Enroll Top10perc

No : 212 Min. : 81 Min . : 72 Min. : 35 Min. : 1.00

Yes : 565 1st Qu.: 776 1st Qu.: 604 1st Qu.: 242 1st Qu.:15.00

Median : 1558 Median : 1110 Median : 434 Median :23.00

Mean : 3002 Mean : 2019 Mean : 780 Mean :27.56

3rd Qu.: 3624 3rd Qu.: 2424 3rd Qu.: 902 3rd Qu.:35.00

Max. :48094 Max. :26330 Max. :6392 Max. :96.00

Top25perc F.Undergrad P.Undergrad Outstate

Min. : 9.0 Min. : 139 Min. : 1.0 Min. : 2340

1st Qu.: 41.0 1st Qu.: 992 1st Qu.: 95.0 1st Qu.: 7320

Median : 54.0 Median : 1707 Median : 353.0 Median : 9990

Mean : 55.8 Mean : 3700 Mean : 855.3 Mean :10441

3rd Qu.: 69.0 3rd Qu.: 4005 3rd Qu.: 967.0 3rd Qu.:12925

Max. :100.0 Max. :31643 Max. :21836.0 Max. :21700

Room.Board Books Personal PhD

Min. : 1780 Min . : 96.0 Min . : 250 Min. : 8.00

1st Qu.:3597 1st Qu.: 470.0 1st Qu.: 850 1st Qu.: 62.00

Median : 4200 Median : 500.0 Median :1200 Median : 75.00

Mean : 4358 Mean : 549.4 Mean : 1341 Mean : 72.66

3rd Qu.: 5050 3rd Qu.: 600.0 3rd Qu.:1700 3rd Qu.: 85.00

Max. : 8124 Max. : 2340.0 Max. : 6800 Max. : 103.00

Terminal S.F.Ratio perc . alumni Expend

Min. : 24.0 Min. : 2.50 Min. : 0.00 Min. : 3186

1st Qu.: 71.0 1st Qu.:11.50 1st Qu.:13.00 1st Qu.: 6751

Median : 82.0 Median :13.60 Median :21.00 Median : 8377

Mean : 79.7 Mean : 14.09 Mean : 22.74 Mean : 9660

3rd Qu.: 92.0 3rd Qu.:16.50 3rd Qu.:31.00 3rd Qu.:10830

Max. : 100.0 Max. : 39.80 Max. : 64.00 Max. : 56233

Grad . Rate

Min . : 10.00

1st Qu.: 53.00

Median : 65.00

Mean : 65.46

3rd Qu.: 78.00

Max. :118.00

From above summary we can see that each attribute is positively skewed except the PhD

attribute .

Number of Top25perc student is more in private colleges than in public colleges.

Due to this we can infer that private colleges has better facilities than public colleges.

To assure this we plot a box plot between Private variable and S. F. Ratio (Student to facu

lty ratio) which is less in private colleges than in public colleges. Which means that

there are more faculties in private colleges than in public colleges.

Now, we plot a graph between Private and Apps variable (Apps - Number of applications

received ).

We found that number of applications in private colleges is less than number of application

in public colleges. Now there may be following case-

(1) Private colleges are expensive. Means they charge more for the facilities they

Provide .

(2) Private colleges are not that good even after good S. F. Ratio.

(3) It might be easy to get degree in private colleges.

(4) Private colleges have good quality of faculties.

For our first hypothesis we will plot Private Vs Expand, Private Vs Room Board cost, Private

Vs Personal .

Now Private Vs Room. Board

Room Boarding charges are higher in Private colleges than in Public colleges.

In Private Vs Personal:

Personal expenditure is less in Private colleges than in Public colleges. It may due to

the reason that private colleges take money in starting of session and provide all the

facility to the student. So the student don't need to expend money from there side most of

the time.

To support our third hypothesis we will plot a graph between Private variable and Grad. Rate

(Graduation Rate).

And we got it Graduation rate is higher in Private colleges.But by this we can not support our

hypothesis because if our 4th hypothesis will be true than it will be obvious to have a higher graduation

rate in private colleges.

To dug deep in this matter further we will draw a graph between Private Vs PhD (Percent of faculty with

PhD degrees).

From the graph we can say that percentage of PhD is more in public colleges than in private colleges.

So by this we can say that in private colleges it to pass the examination.But then why topper students

are persuing there undergrad in private colleges?

let's check which type of college provides more out of state tution.

We saw that Private colleges provide more out state coaching than public colleges.(From graph of Private Vs

Outstate.)

So, it may be a case that most topper students live in other state and they do course as a part time student

from these private colleges.To assure this we plot a graph btween Private Vs P.Undergrad and then we will try to

find number of toppers in fart time students.

But we are wrong number of part time students is less in private colleges than in public colleges.

What about the Book variable? I am not sure what it exactly says but I am considering it as the cost of stationary .

We saw that the stationary expense is low in private colleges but at the same time the number of faculty who donate

is high in private colleges.

So it may be the chance that since in private colleges all the facilities are provided to the students is from college

so due to the donation of teachers they comes in less cost.

Therefore despite of high fees students prefer to join in private colleges because they can easily get the degree and

use better facilitise.